

Sub B1
8. A micro array, comprising a stimuable phosphor layer provided on a substrate and a protective layer provided on said stimuable phosphor layer, wherein said protective layer has affixed thereto an array of a series of selected biomolecules.


Q 17 sub 27 cont
9. The micro array of claim 8, wherein said biomolecules are affixed by bonding to a poly-L-lysine coated protective layer.

10. The micro array of claims 7 or 8, wherein said biomolecule is an oligonucleotide.

Sub B2
11. A method for analyzing a biomolecule, comprising the steps of:

(i) preparing a micro array, wherein said micro array comprises a stimuable phosphor layer provided on a substrate, wherein said phosphor layer has affixed thereto an array of a series of selected biomolecules,

(ii) contacting the micro array of step (i) with a labeled biomolecule, to cause the labeled biomolecule to be bound to one or more members of the series of selected biomolecules, wherein said labeled biomolecule is labeled with an energy generating substance,

Sub B2  (iii) exposing the resulting micro array of step (ii) to visible light to thereby induce the release of energy from phosphor molecules in the stimuable phosphor layer,

(iv) placing the micro array of step (iii) in a dark place to thereby cause the stimuable phosphor layer to store energy released from the energy generating substance,

A' Cont (v) exposing the resulting micro array of step (iv) to stimulating rays which cause the stimuable phosphor layer to emit light in proportion to the amount of energy stored therein,

(vi) photoelectrically detecting the resulting emitted light from step (v) as a signal, so as to detect the one or more members of the series of selected biomolecules which are bound to the labeled molecule, and

(vii) determining the identity of the one or more members of the series of selected biomolecules bound to the labeled biomolecule by comparing the location of the detected signal in the micro array to the location of said one or more members of the series of selected biomolecules based on previously stored positional information.

12. A method for analyzing a biomolecule, comprising the steps of:

Sub 02
(i) preparing a micro array, wherein said micro array comprises a stimuable phosphor layer provided on a substrate and a protective layer provided on said phosphor layer, wherein said protective layer has affixed thereto an array of a series of selected biomolecules,

(ii) contacting the micro array of step (i) with a labeled biomolecule, to cause the labeled biomolecule to be bound to one or more members of the series of selected biomolecules, wherein said labeled biomolecule is labeled with an energy generating substance,

Q1
Cat
(iii) exposing the resulting micro array of step (ii) to visible light to thereby induce the release of energy from phosphor molecules in the stimuable phosphor layer,

(iv) placing the micro array of step (iii) in a dark place to thereby cause the stimuable phosphor layer to store energy released from the energy generating substance,

(v) exposing the resulting micro array of step (iv) to stimulating rays which cause the stimuable phosphor layer to emit light in proportion to the amount of energy stored therein,

(vi) photoelectrically detecting the resulting emitted light from step (v) as a signal, so as to detect the one or more

Sub B2
members of the series of selected biomolecules which are bound to the labeled molecule, and

a' cont
(vii) determining the identity of the one or more members of the series of selected biomolecules bound to the labeled biomolecule by comparing the location of the detected signal in the micro array to the location of said one or more members of the series of selected biomolecules based on previously stored positional information.

13. A micro array, comprising a stimuable phosphor layer provided on a substrate, wherein said phosphor layer has affixed thereto an array of a series of selected detecting bodies.

14. A micro array, comprising a stimuable phosphor layer provided on a substrate and a protective layer provided on said stimuable phosphor layer, wherein said protective layer has affixed thereto an array of a series of selected detecting bodies.

15. The micro array of any one of claims 7, 8, 13 or 14, wherein said substrate is polyester.

Sub B3
16. A method for analyzing a sample, comprising the steps of:

(i) preparing a micro array, wherein said micro array comprises a stimuable phosphor layer provided on a substrate,

wherein said phosphor layer has affixed thereto an array of a series of selected detecting bodies,

Sub B3 (ii) contacting the micro array of step (i) with a sample, wherein said sample comprises a plurality of constituents which are labeled with an energy generating substance, to cause a constituent in said sample to be bound to one or more members of the series of selected detecting bodies,

(iii) exposing the resulting micro array from step (ii) to visible light to thereby induce the release of energy from phosphor molecules in the stimuable phosphor layer,

C1
C2* (iv) placing the micro array of step (iii) in a dark place to thereby cause the stimuable phosphor layer to store energy release from the energy generating substance,

(v) exposing the resulting micro array of step (iv) to stimulating rays which cause the stimuable phosphor layer to emit light in proportion to the amount of energy stored therein,

(vi) photoelectrically detecting the resulting emitted light from step (v) as a signal, so as to detect a labeled constituent of the sample which is bound to a detecting body, and

(vii) determining the identity of a labeled constituent of the sample by comparing the location of the detected signal in

Sub B3
the micro array to the location of said one or more members of the selected detecting bodies based on previously stored positional information.

17. A method for analyzing a sample, comprising the steps of:

A
cor
(i) preparing a micro array, wherein said micro array comprises a stimuable phosphor layer provided on a substrate and a protective layer provided on said phosphor layer, wherein said protective layer has affixed thereto an array of a series of selected detecting bodies,

(ii) contacting the micro array of step (i) with a sample, wherein said sample comprises a plurality of constituents which are labeled with an energy generating substance, to cause a constituent in said sample to be bound to one or more members of the series of selected detecting bodies,

(iii) exposing the resulting micro array from step (ii) to visible light to thereby induce the release of energy from phosphor molecules in the stimuable phosphor layer,

(iv) placing the micro array of step (iii) in a dark place to thereby cause the stimuable phosphor layer to store energy release from the energy generating substance,

Sub B3 (v) exposing the resulting micro array of step (iv) to stimulating rays which cause the stimuable phosphor layer to emit light in proportion to the amount of energy stored therein,

(vi) photoelectrically detecting the resulting emitted light from step (v) as a signal, so as to detect a labeled constituent of the sample which is bound to a detecting body, and

ai cal (vii) determining the identity of a labeled constituent of the sample by comparing the location of the detected signal in the micro array to the location of said one or more members of the selected detecting bodies based on previously stored positional information.

18. The method of any one of claims 11, 12, 16 and 17, wherein said substrate is polyester.

19. The method of claim 11 or 12, wherein said biomolecules are oligonucleotides.

Sub C4 20. The method of claim 12, wherein said biomolecules are affixed by bonding to a poly-L-lysine coated protective layer.
